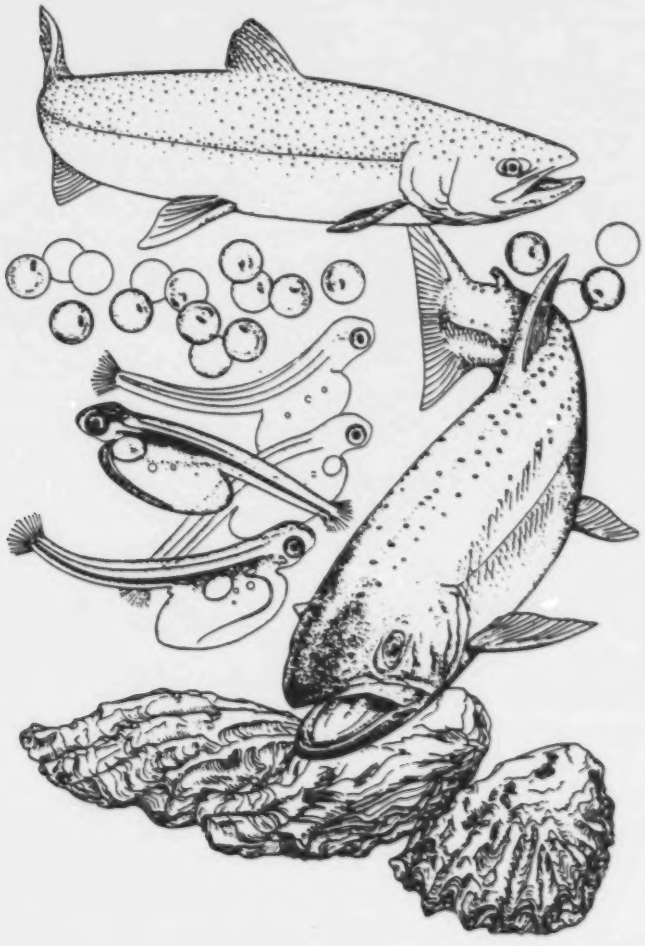
Aquaculture Industry Development Report

IMPACTS OF THE FINANCIAL RESTRUCTURING IN THE BRITISH COLUMBIA SALMON FARMING INDUSTRY



Province of British Columbia
Hon. John L. Savage, Minister
Ministry of Agriculture & Fisheries,
Aquaculture & Commercial Fisheries Branch

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IMPACTS OF THE FINANCIAL RESTRUCTURING IN THE BRITISH COLUMBIA SALMON FARMING INDUSTRY

Prepared for:
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TABLE OF CONTENTS

1.0 INTRODUCTION.....1

2.0 CHANGES TO THE INDUSTRY STRUCTURE OF THE B.C. SALMON FARMING INDUSTRY.....6

3.0 IMPACTS OF PERFORMANCE AND PRODUCTION.....14

3.1 Short-Term Impacts.....14
3.2 Longer-Term Impacts.....16

4.0 RECOMMENDATIONS TO GOVERNMENT.....18

5.0 TERMS OF REFERNCE FOR MORE COMPREHENSIVE FINANCIAL STRUCTURE AND PERFORMANCE STUDY.....22

6.0 CONCLUSION.....24

1.0 INTRODUCTION

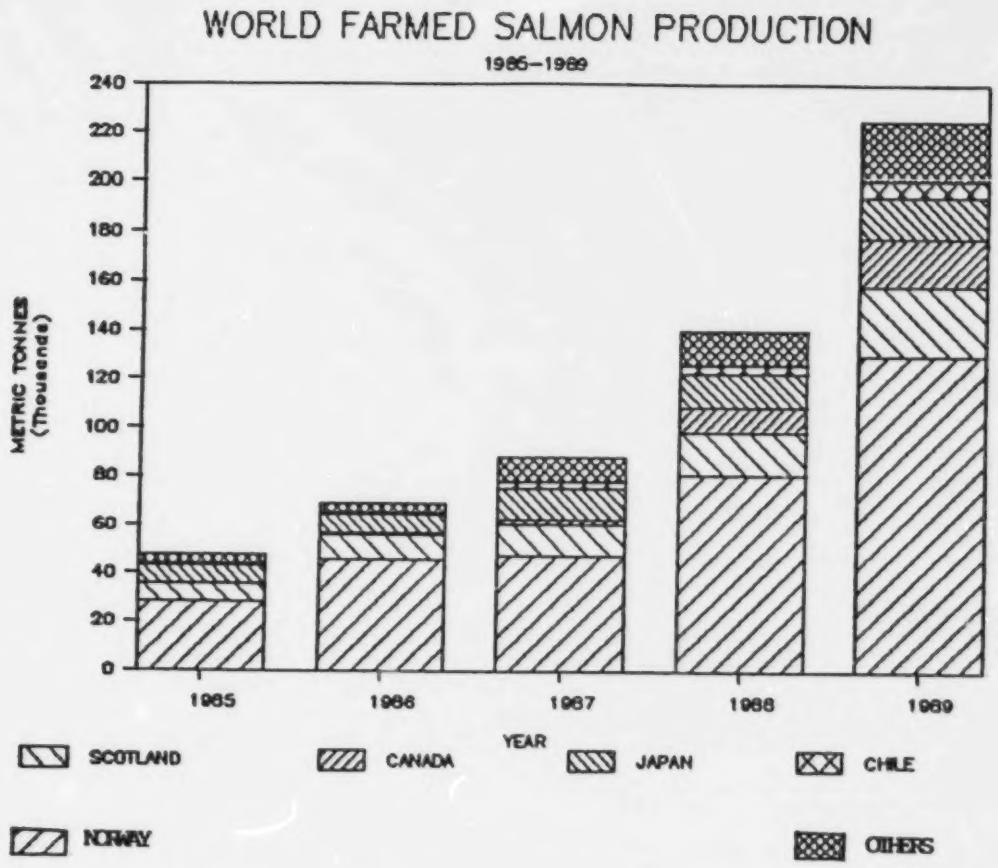
This report provides an industry perspective on the impacts of financial restructuring currently occuring in the British Columbia salmon farming industry. Included are a discussion of changes to the structure and organization of the industry, short and long term impacts on industry performance, and recommendations to government on how to mitigate the negative aspects.

The financial problems currently besetting the industry are well known. In some cases, companies are going through formal receivership proceedings. In other cases, ownership is changing hands through new investment.

It is useful to briefly review the factors creating this state of affairs. In many ways, we are experiencing the rationalization that eventually occurs with most new industries nearing the end of their start-up phase. However, the rationalization and financial upheaval occurred earlier and with more severity than many predicted. Major factors which stimulated the B.C. industry's rationalization were the growth of the salmon farming industry worldwide and the 30% decline in salmon prices which occurred in 1989 when many of the farms still had the relatively high costs of production associated with start-up.

Exhibit 1.1 summarizes the dramatic increase in world production of farmed salmon that has occurred since 1985. Production more than doubled between 1987 and 1989 to over 200,000 tonnes. This was largely due to the Norwegian industry's growth and expansion that has occurred since 1985. The Norwegian government has used the salmon farming industry to diversify their coastal communities which had been dependent upon a decling commercial fishery. Their 1989 production of 130,000 tonnes therefore constituted in excess of 50% of the world's total.

EXHIBIT 1.1



Source:

-Worldwide Farmed Salmon Production To The Year 2000
The DPA Group Inc., March 1988
-The B.C. Salmon Farmers Association
September, 1989

Scotland was the second largest producer in 1989 with 28,000 tonnes. Like Norway, Scotland has used salmon farming to diversify the economies of their remote coastal communities and has expanded the industry considerably since 1985.

Exhibit 1.1 also shows how rapidly the Canadian industry has grown. From a position of relative obscurity in 1985, Canada has emerged as one of the leading suppliers of farmed salmon. In 1989, Canada produced 16,500 tonnes, of which B.C. produced 12,400 tonnes and New Brunswick the remaining 4,100 tonnes.

Industry analysts knew world production was growing rapidly but none had forecasted in 1987 that world production would reach 200,000 tonnes by 1989. A 1988 Sea Fare Group report summarized the 1988 to 1995 production forecasts from a number of sources[1]. The forecasted range for 1989 was given as 137,000 to 166,000 tonnes. The 1990 forecasted range was 186,000 to 222,000. It was believed that the critical year would be 1990 and the resulting lower price structure would not occur until then.

However, prices dropped over 30% worldwide in 1989 as shown in Exhibit 1.2. Although there were a variety of factors involved in this price decline[2], the impact of the 200,000 tonnes of farmed salmon entering the world salmon market was one of the primary causes. There has been little investment in market development to stimulate increased product consumption and market expansion to keep pace with this level of growth for fresh farmed salmon.

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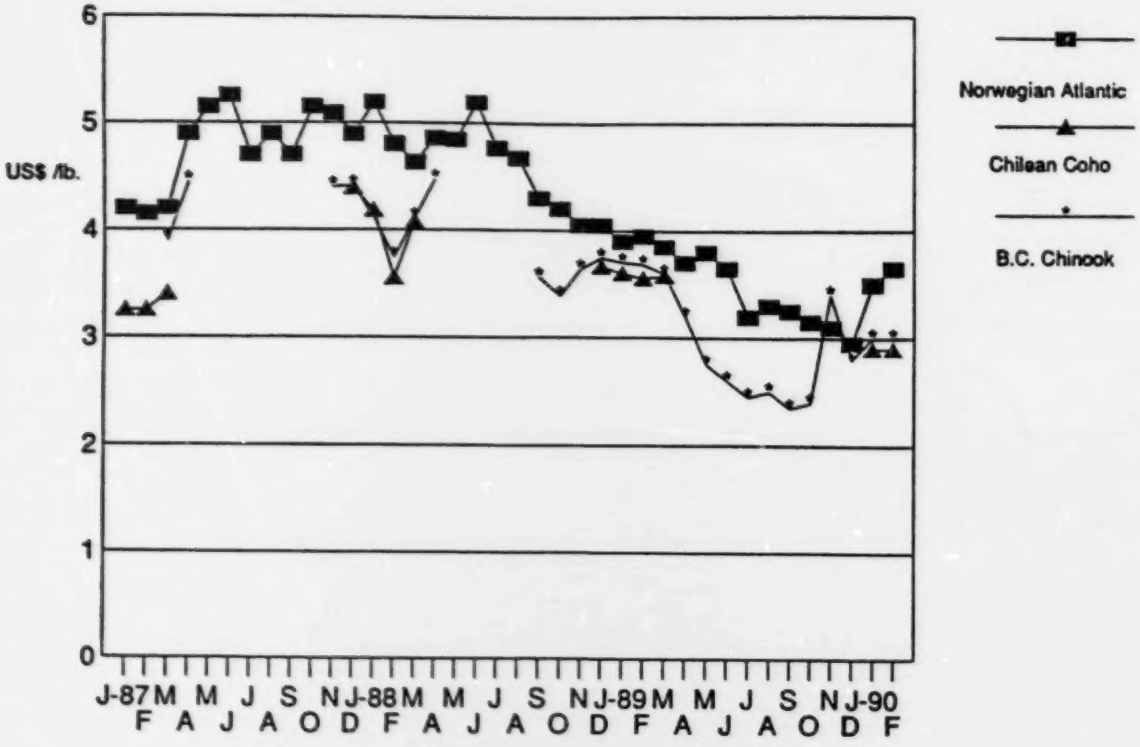
[1]The Sea Fare Group, "World Markets for Salmon: Pen Reared Salmon Impacts", State of Alaska, Department of Commerce, 1988

[2]B.C. Salmon Farmers Association, "Current Developments In World Salmon Markets: Implications For The Canadian Salmon Farming Industry", DFO Economic and Commercial Analysis Report No. 46, 1990

Exhibit 1.2: Fresh Salmon Prices 4-6 Lbs. - Sales By First Receivers



Source: Urner-Barry Seafood Price Current

Also impacting the world supply situation in 1989 were record inventories of frozen salmon in Japan, North America and Europe carried over from 1988. The 1989 Alaskan salmon catch was also an all-time record, with 317,000 tonnes harvested, a 30% increase over the 1988 harvest of 242,000 tonnes[3].

The impact of low prices has been especially hardfelt in B.C. because of the newness of the industry and how expansion was financed. The industry is young. There were only 37 farms in 1985 and now there are over 130 operating sites. The majority of new entrants in the industry were bringing their first sizeable harvests to market in 1989. Many of the fish farms were highly levered with debt financing. The weak financial structures of many B.C. farms could not manage the dramatic drop in prices which occurred in 1989.

They also had relatively high production costs associated with start-up firms facing the husbandry challenges of new species (chinook and coho).

The balance of this report will examine what impacts restructuring will have on the structure and performance of the industry in the years to come.

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[3]Herman Sazikko, Alaska Department of Fish and Game, personal communication

2.0 CHANGES TO THE INDUSTRY STRUCTURE OF THE B.C. SALMON FARMING INDUSTRY

Exhibit 2.1 provides a summary of the 24 ownership changes and receiverships which have occurred in the B.C. salmon farming industry during late 1988 to early 1990.

This restructuring has had a number of impacts on the organization of the industry which are briefly discussed below.

a) The changes depicted in Exhibit 2.1 will produce a smaller industry in terms of the numbers of active companies, and more concentrated ownership as well. The shrinkage in the number of active companies is evidenced by the fact that there were approximately 75 operating salmon farming companies in August 1989; in August 1990, there will be approximately 50.[4] This represents a reduction of one-third the number of operating companies in the industry.

The dominant interest in public receivership offerings is coming from existing companies in the salmon farming business on the West Coast. According to BCMAF calculations, 40% of the receiverships to date were acquired to be operated as going concerns. In 25% of the other cases, assets were acquired as an inexpensive source of replacement assets for use elsewhere in the successful bidder's operations. (35% of the receivership situations had not been disposed of at the time of report writing).

The level of foreign ownership in the industry continues to increase, with 8 of the 12 changes in ownership involving out of country investment.

It is also significant that throughout this first wave of restructuring, we have yet to see any significant new investment interest being shown by players not previously involved, such as large, integrated food

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[4]B.C. Salmon Farmers Association estimates, March 1990

EXHIBIT 2.1: RECEIVERSHIP AND OWNERSHIP CHANGES IN THE B.C. SALMON FARMING INDUSTRY NOVEMBER 1988 - FEBRUARY 1990

DATE	RECEIVERSHIP OR OWNERSHIP CHANGE	APPROX PRODUCTION CAPACITY (TONNES)	TYPE OF OPERATION	PURCHASER/MAJOR NEW INVESTOR	PRIMARY ACTIVITY OF PURCHASER
Nov 1988	Nordic Ventures	175	Grow out	B.C. Packers	Fishing Company
Dec 1988	National Seastar Resources Ltd.*	600	Hatchery & Growout	Royal Pacific & VCC/Ltd. Partnership: General Sea Harvest	Existing Salmon farming companies
Feb 1989	General Sea Harvest*	800	Hatchery & Growout	The Cultor Group (Finland)	Biotechnology & feed multi-national (owns EWOS)
Apr 89	North American Salmon Group	600	Hatchery & Growout	Nor-Am Ltd. (joint venture of Norent and Scan-Am in WA)	Existing Salmon farming companies
Aug 89	Triangle Fishfarms Ltd.	200	Growout	Ceneral Sea Harvest Corp.	Existing Salmon farming companies
Aug 89	Sea Grow Industries	250	Growout	American Aqua-culture Group Inc.	Existing aquaculture company in WA
Sep 89	Attwood Bay Fish Co.	1,000	Growout	Assets liquidated (Pac Nat & others)	
Sep 89	Clearwater Pacific Ltd.*	400	Hatchery & Growout	B.C. Packers	Fishing Company
Sep/Oct 1989	Scanpesca/ Osgood Creek	350	Growout Growout	Sale confirmed assets to Pac Nat. Osgood Creek site unsold.	

*Changes In Ownership

DATE	RECEIVERSHIP OR OWNERSHIP CHANGE	APPROX PRODUCTION CAPACITY (TONNES)	TYPE OF OPERATION	PURCHASER/MAJOR NEW INVESTOR	PRIMARY ACTIVITY OF PURCHASER
Sep 89	Ross Passage	175	Growout	Einar Lange Management A/S	Norwegian Shipping Company
Sep 89	Waterfour Industries	175	Growout	EWOS Canada (Cultor)	Feed Company
Sep 89	Viking Salmon Sea Farms/ Newcomb Point Sea Farms	200	Growout	Hardy Sea Farms	Existing salmon farming company
Oct 89	Evans Bay Aquafarm	200	Growout	Assets Liquidated	
Oct 89	Hagensborg Sea Farms Inc.*	300	Growout	Einar Lange Management A/S	Norwegian Shipping Company
Oct 89	Royal Pacific/VCC Ltd. Partnership*	600	Growout (3 sites)	Pacific National	Limited Partnership
Nov 89	351733 B.C. Ltd. (Lander bank-RoyPac Partnership)		Contract Growout	All inventory being harvested & sold-no other assets	
Nov 89	Royal Pacific Sea Farms Ltd.	2,500	Hatcheries & growout	Currently for sale. Some assets bought	
Dec 89	Troll Marine Farms Ltd	175	Growout	Currently for sale	
Dec 89	Skookumchuck Salmon Salmon Farms Ltd.	175	Growout	Currently for sale	
Dec 89	Western Aquaculture Resources	200	Hatchery & Growout	Currently for sale	
Jan 90	Dalmar Sea Farms	150	Growout	Currently for sale	
Jan 90	Sechelt Salmon Farms	150	Growout	Currently for sale	
Feb 90	Can-Olympic Seafarm	175	Growout	Currently for sale	
Feb 90	Rondo Sea Farms	175	Growout	Currently for sale	

*Changes In Ownership

companies. The restructuring is occurring within a relatively closed circle of participants who already have significant stakes in the industry.

b) As a result of the restructuring, the industry is becoming more vertically integrated. Both forward and backward integration are occurring. For example, the parent company of one of the major fish feed operations (EWOS Canada Ltd.) recently acquired controlling interest in General Sea Harves Corporation-an integrated company in its own right with hatchery, grow-out and processing operations. On the other hand, traditional fish processing and marketing companies such as B.C. Packers Ltd. are integrating backwards through direct acquisition of farms in order to achieve greater security of supply. Finally, some salmon farming companies are also integrating into primary and even secondary processing facilities during this financial restructuring phase. This includes companies such as Nor-Am in Campbell River and General Sea Harvest in Tofino who both purchased processing plants in 1989.

In general, all the ownership changes are leading to a more vertically integrated industry.

c) We are also witnessing more horizontal integration in the industry with existing salmon farming companies acquiring more sites and facilities in their primary line of business. For example, companies like B.C. Packers, General Sea Harvest, Hagensborg and Norent have acquired interests in additional grow-out sites in 1989. In some of these cases, this integration has been actively encouraged (and financed) by financial institutions.

It would appear that Norwegian banks are using the receivership route to reorganize and consolidate their investments and security in B.C. salmon farms. In such cases, several previously independent operations financed by the same institution are being consolidated under the stewardship and control of one principal owner/operator. This includes companies such as Norent which purchased NASC jointly with Scan-Am from Washington-all with primary financing by the Christiania Bank.

d) The geographic distribution of the industry is also shifting with the Sechelt area declining in importance and the Campbell River and Northern Vancouver Island regions becoming more prominent. The intense algae bloom in the fall of 1989 exacerbated a deteriorating financial situation for many Sechelt area operations. The plankton bloom resulted in an estimated loss of 350 tonnes of fish[5]. About two-thirds of the lost tonnage were market-sized fish and valuable broodstock. The remaining one-third were yearling smolts. Two farms, Skookumchuck and Troll, lost nearly all their stock.

Other companies had more minor losses as well as had to spend considerable effort towing their cages away from the blooms. All companies suffered from lost growth and stress-related diseases.

The likely unavailability of financing and affordable insurance coverage will mean the shutting down of significant number of these sites, coupled with a possible shifting of operations to other areas of the Coast. This is illustrated in Exhibit 2.2 which provides an analysis of the current and forecasted distribution of operating sites in 1989 and 1990.

The number of operating sites in the Sechelt region will be nearly halved, while Campbell River will stay almost the same. The few sites being closed in Campbell River will be balanced off by expansions by other companies. The North Island and West Coast of Vancouver Island will see limited expansion in 1990.

The total number of operating sites will be reduced from approximately 140 in August, 1989 to 120-125 in 1990.

e) The ownership mix in the industry is changing as well. The balance between the small, independent operators and the larger corporately owned enterprises is shifting. The intial expansion of salmon farming in B.C. featured a large number of small, independent

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[5]Insurance Company Sources

EXHIBIT 2.2: OPERATING MARINE SITES IN THE B.C. SALMON FARMING INDUSTRY

AREA	# OF LEASES	# OF OPERATING SITES	
		August '89	Forecast August '90
Sechelt	74	46	25
Campbell River	44	33	30
North Island	39	24	33
Tofino/Alberni Inlet	31	22	26
South Vancouver Island	11	8	6
North Coast	9	6	3
TOTALS	**208**	**139**	**123**

SOURCE: B.C. Salmon Farmers Association

NOTES TO EXHIBIT:

1. Based on BCSFA staff estimates of likely sites that will not be stocked next year, plus additional sites expected to come on line next year.

farming operations. Many of these operations lacked the financial backing and resources to survive the 30 - 40% drop in farm-gate prices that occurred in 1989. They were some of the first victims of the receivership and rationalization phase. Moreover, the tight capital conditions for the industry means that many of the smaller independents are unable to secure capital without giving up substantial ownership positions in the farm.

The restructuring has reshaped the industry as larger salmon farming companies with more secure financing continued to expand by either purchasing receivership companies as shown in Exhibit 2.1 or by developing new sites. This will result in fewer companies controlling larger blocks of production with increasing degrees of integration.

This is shown in Exhibit 2.3 which indicates that nearly 75% of the industry's 1990 production will be from just nine companies. All of them have their own hatcheries, four have their own processing plants and six market at least half of their own product. This is a dramatic shift in production concentration compared to 1989. Exhibit 2.4 shows that based on the January 1989 production forecast, the seven largest companies controlled only by 60% of the industry's production.

However, owner/operator enterprises will not disappear. In fact, they may prove to be the most efficient and feasible means of organizing the production side of salmon farming business. We are likely to see more corporate structures occurring which preserve an owner/operator status for grow-out operations, but channel product through large integrated operations to handle the processing, marketing and distribution functions.

EXHIBIT 2.3: VERTICAL INTEGRATION OF THE B.C. SALMON FARMING INDUSTRY IN 1990

SIZE CATEGORY (TONNES)	NO. OF COMPANIES	PRODUCTION PER GROUP	% OF TOTAL	OWN HATCHERIES	OWN PROCESSING	OWN MARKETING
1000 +	4	7,700	51	4	1	2
500 - 1,000	5	3,300	22	5	3	4
300 - 500	5	1,800	12	2	1	3
<300	36	2,200	15	10	1	25
TOTALS	50	15,000	100	21	6	34

SOURCE: B.C. Salmon Farmers Association
March, 1990

EXHIBIT 2.4: ESTIMATED DISTRIBUTION OF PRODUCTION BY COMPANY SIZE IN 1989

SIZE CATEGORY (TONNES)	NO. OF COMPANIES	FORECASTED PRODUCTION JANUARY, 1989 (TONNES)	% OF TOTAL
1000+	4	6,400	44%
500 - 1000	3	2,300	16
300 - 500	7	2,900	20
200 - 300	7	1,450	10
100 - 200	11	1,160	8
<100	27	290	2
TOTALS	59	14,500	100%

SOURCE: B.C. Salmon Farmers Association and Independent Company Data

3.0 IMPACTS OF PERFORMANCE AND PRODUCTION

There will be both short and long term impacts from the current financial restructuring on the performance of the B.C. salmon farming industry. If we define the short term to include the period through to the beginning of 1991, we are likely to see the following scenario unfold.

3.1 Short-Term Impacts

a) The B.C. industry will produce less fish during calendar year 1990 than was previously forecast. Production targets in 1988 of 20,000 tonnes in 1990 appeared realistic at that time, assuming the high prices and imbalance between supply and demand would continue for at least another two years. This 20,000 tonne prediction was loosely defined and based upon the forecasts of several large companies and many smaller companies now in receivership.

The B.C. Salmon Farmers Association have predicted in their February 1990 forecast that the industry will produce 15,000 tonnes this calendar year; a 25% reduction from the 20,000 tonnes figure believed attainable in 1988.

Lower production levels will occur for a number of reasons. Fish stocks involved in receiverships will generally not be held through to normal market maturity. In many cases, the stocks were poorly maintained just prior to the receivership, and receivers are liquidating inventories as opposed to financing their continued grow-out. In other cases, capital unavailability is forcing farms to sell fish earlier in the production cycle for cash flow reasons. Although not financially related, the intense algae blooms also appears to have contributed to lower average sizes with the 1988 brood year fish compared to '87 counterparts. The combination of these factors means that the industry will not achieve the biomass at time of harvest that was expected when smolts were first put in the water.

b) We can expect that distress selling and early harvesting of the fish during 1990 could also create more downward pressure on prices of B.C. farmed fish, especially in the lower size classes.

c) Financial problems in the industry may also contribute to the continuation of seasonal production patterns within the B.C. salmon farming industry. While the goal in the industry is to obtain a consistent and continuous supply of fish throughout the year, we have been unable to obtain it to date. Financing problems are a contributing factor.

Pending receiverships by many companies caused them to harvest their fish in June to September 1989. Each of these months had production in excess of 1,000 tonnes. June had a production level of 1,700 tonnes, the highest monthly production to date. A combination of distress selling over the summer and fish tied up in receiverships caused a production decline during the last quarter. October's production dropped to 370 tonnes, a 65% difference from that forecasted. November and December's production were also reduced by 60% and 30%, respectively.

d) The image problems associated with the current financial turmoil in the industry will mean that capital will continue to be extremely tight for existing operators. Terms of trade credit will continue to be tightened by suppliers. Banks will continue to steer clear of the industry, and the collapse of companies such as Royal Pacific has most analysts predicting that public equity will be difficult for the industry to secure for a considerable time.

Private investment - personal or corporate - will remain the primary source of capital outside the possibility of government assistance programs, and such capital will only be provided by investors with long time horizons who are willing to ride out the current depressed situation.

The approximately 28 million smolts[6] introduced into saltwater in the spring of 1989 would require $270 million of operating capital if they were all to be raised to market size. This assumes an overall 70% survival rate, a 4.7 lb average market weight for chinook[7] and a $3.00/lb cost of production figure[8]. Operating capital of this magnitude will be difficult to secure from internal or external sources of funds, particularly if price performance does not improve through 1990.

3.2 Longer-Term Impacts

If we look beyond 1990, there are several impacts which current financial problems pose for the future of salmon farming in B.C..

a) Lower earnings caused by low prices in the foreseeable future means the industry will be unable to finance significant new investments in market development. Such investments are critically needed to both increase consumption and B.C.'s market share in its key target markets.

It is generally acknowledged that a significant investment must be made to boost demand. The future growth of the B.C. salmon farming industry will be determined by how successfully the market for farmed salmon products can be developed and more specifically how large a market share B.C. can capture. However, we face the dilemma of being unable to earn the necessary returns in the short term to provide for such investments.

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[6]B.C. Salmon Farmers Association "Hatchery Sector Production In The B.C.'s Salmon Farming Industry For 1988 and 1989", November, 1989

[7]B.C. Salmon Farmers Association, "1989 Farmed Salmon Production In British Columbia", March 1990

[8]B.C. Ministry of Agriculture and Fisheries, "Estimated Costs and Returns for Chinook Salmon Production In The Campbell River Area", June, 1989

b) B.C. will be endowed with a leaner, more efficient industry consisting of the survivors who make it through 1990. Receiver-ships and recapitalizations, while creating losses for first generation investors, should provide the next generation of owners with a less costly asset base. In additin, the industry will consist of fewer, larger, and more integrated operations better equipped to face the marketing challenges over the next decade.

It is clear that there are substantial economies of scale in the sales and distribution of seafood. It will take large production blocks to achieve these economies and successfully introduce farmed salmon on a mass scale into grocery/supermarket sector. The rationalization in B.C. has begun the process towards creating this needed industry structure in B.C.

4.0 RECOMMENDATIONS TO GOVERNMENT

Government assistance to the aquaculture sector should be guided by two basic criteria. Initiatives and programs should be undertaken that will contribute to a lower cost of production and/or help to stimulate greater demand and market share for B.C. production. Any policies enacted to deal with impacts to the current financial restructuring should be subjected to these two acid tests. With those two principles in mind, the following recommendations are made for consideration by government.

1. Clearly one of the most serious consequences of the current financial upheaval is its impact on the ability of industry survivors to raise capital over the next few years. The negative image for this sector created in the financial community will make it increasingly difficult for even the most prudent and fiscally responsible companies to raise funds. The problem will be most acute for working capital.

Canadian banks will be even more reluctant to invest in this sector, and public equity markets will be unavailable as a source of capital for a considerable time. High risk, speculative markets like the VSE have not been particularly feasible means of raising capital for this sector. The pressure for short term performance and stock appreciation has been out of step with the R&D nature of the young salmon farming business in B.C. The current wave of receiverships also makes it painfully clear that highly levered capital structures with high debt ratios are similarily inappropriate to finance this industry through its development phase.

The only feasible avenues left available to finance the industry are private investment sources with investors who have long term horizons and access to risk capital. In many cases, large diversified corporations are the most likely source.

The Province should investigate ways and means of encouraging the infusion of equity and operating capital into the salmon farming sector. These would include an intensive economic analysis of performance and prospects in this sector, and an analysis of the strengths and weaknesses of the various types of financing methods employed by the industry to date. (This research is further discussed in Section 5.0).

Capital availability will be critical in determining what place B.C. will occupy in the world aquaculture scene. There will be intense competition to stake out and solidify market shares by all the various supply regions over the next 5 years. B.C. could very well lose a significant opportunity to develop a sector that contributes to economic diversification and revitalizes coastal communities in the Province.

2. One of the essential ingredients for restoring investor confidence and to seriously evaluate the economic potential for the sector is to carry out an extensive analysis of the economics of growing and marketing of B.C. salmon. Virtually all of the financial analysis to date on this sector has been on a proforma basis. It has not been possible to carry out a systematic collection of actual financial and farm performance data.

There is an urgent need to initiate an on-going "record of performance" program that would create a time series data base of key biological and economic performance indicators for the sector. This would not only be useful for individual firms to monitor their performance, but useful in creating a credible data base for the investment community.

Analysis of "cost of production" performance in particular must be approached in a rigorous and comprehensive fashion. The Inter-firm Comparison Study approach used by Industry, Science and Technology Canada is a useful model in this regard. There is need to conduct cost of production analysis not only in terms of current results, but in terms of what is achievable in the future given husbandry improvements and realization of economies of scale.

3. Government has an interest in supporting economic growth and development in the Province-as well as managing and regulating growth in an orderly fashion. A delicate balance has to be struck. The industry is concerned that the pendulum has recently swung too far in favour of regulating the "orderly growth" of an industry that is struggling to merely survive over the short term.

As indicated in Sections 2.0 and 3.0, the industry is struggling to maintain the status quo with minimal expansion plans. New aquaculture licencing regulations, environmental monitoring requirements, and disease certification requirements have all been recently introduced. Increasing regulation and the associated costs of compliance are being applied when industry is reeling from one financial shock to another.

While the real costs of compliance with government may add little to the overall cost of production, the resulting paper burdens and administrative requirements can unnecessarily sour industry/government relations. There is an urgent need to re-examine the array of regulations and reporting requirements being introduced. This must be done to determine what information government requires to safeguard broader public interests, without unnecessarily constraining salmon farmers from getting on with the business of creating jobs and income for B.C.

Industry is, as well, anxiously awaiting the outcome of government assistance proposals in the areas of market development and support for research now before the Provincial Cabinet. Support in these areas will provide some additional signals that government confidence in the future of aquaculture remains strong.

4. One of the areas which has a direct impact on cost of production is the taxation regime for salmon farming. In the cases of both property and social service taxes, there is ample evidence that the B.C. industry is not equitably treated compared to other farm sectors in British Columbia and its' international competitors in the salmon farming arena.

BCMAF could play an important role in representing the case of aquaculture to the Ministry of Finance and Treasury Board on these two taxation areas. Action on both these fronts could provide an important signal of support for this sector.

5. The Provincial government should look at providing specific assistance to this sector through programs such as ARDSA and FIDP. In case of ARDSA, aquaculture was specifically excluded from any assistance under the definition of eligible activities. The FIDP program no longer exists. However, its' previous mandate would appear to be increasingly relevant to the salmon farming sector which is beginning to pursue specific marketing initiatives like value-added production which were ideally suited for assistance under the old FIDP.

In terms of access to such programs, salmon farms in British Columbia are at a distinct disadvantage compared to its competitors on the east coast of Canada. Multi-million dollar Fisheries sub-agreements under ERDA agreements have recently been renewed in the Atlantic provinces with significant funds targetted for aquaculture. B.C. is unlikely to ever have a Fisheries sub-agreement, and further the industry has been unable to avail itself of assistance given the tight definitions on agriculture embodied in the current ARDSA program. This clearly should be rectified in the new ARDSA program now up for negotiation and renewal.

6. Another likely consequence of the current restructuring and search for viability in B.C. fish farms is a renewed interest in Atlantic salmon production. Both levels of government should be prepared to re-examine the policies on Atlantic salmon introduction in B.C. waters to facilitate the growing interest in this area.

5.0 TERMS OF REFERENCE FOR MORE COMPREHENSIVE FINANCIAL STRUCTURE AND PERFORMANCE STUDY

There are a number of areas which could be included in a more comprehensive study of the industry's financial structure and performance. The following outlines some specific needs which could be included in the scope of work.

1. An industry "balance sheet" should be attempted which identifies total existing capital investment in the sector by its' component parts and details the various financing sources currently in place and the relative mix of debt and equity.

This could be concocted from a variety of sources-including data on publicly traded aquaculture companies as well as review of receivership prospectuses and possibly a detailed survey of individual firms. This analysis should clearly differentiate the relative amounts of capital tied up in fixed and floating assets and equipment, versus investment in inventory and other elements of working capital.

The liabilities and "owners equity" side of the balance sheet should clearly denote the relative proportions of both. A possible guide to this sort of analysis could be the original Clarkson Gordon analysis of the financial structure and performance of the East Coast fish processing sector done in the early 80's.

2. It would be interesting to analyze various financing methods used in the industry to date. This will include VSE-raised capital, VCC/limited partnership methods, equipment leasing, contract rearing, conventional debt instruments, private investor equity, AIP funding, and typical Norwegian bank financing. The major emphasis should be on the appropriateness and likely availability of each of these sources of funding to finance the industry over the next five years.

3. An analysis of the capital requirements of the industry at various production levels (e.g. 15,000, 20,000, 30,000 tonnes), and the likely sources for such financing and the terms and conditions under which it would be made available.

4. An examination of the costs of production and selling of Chinook and Atlantic salmon in British Columbia in comparison with the landed costs of our international competitors in the key target markets of Japan and the U.S. It is important that the study be designed by easy updates in future years and not just a one-time exercise.

This exercise could potentially be coordinated with the Interfirm Comparison Study proposed by Industry, Science and Technology Canada. It will require close cooperation with the existing industry, and some elaborate assurances to protect individual firm confidentiality.

This analysis should be then extended to forecast the most likely candidate factors which could reduce production and selling costs over the next five years. This should consider everything from likely reduction in feed costs, expected gains in conversion ratios and the potential scale economies possible through the creation of large scale processing, selling and marketing organizations and linked with the "Record of Performance" program now being designed. The emphasis should be placed on reconciling data from participating firms for comparability purposes.

5. Based on a review of recent receiverships, an analysis should be made of the external factors (price declines, absence of proven technical and husbandry methods, etc) and internal factors (management problems, capital structure, etc) which contributed to financial failure of these operations.

6. The study should also incite open-ended comment from individual firms on what areas of government support is most required (e.g. marketing, research and development, financing, etc.)

6.0 CONCLUSION

It is easy to lose sight of the future potential for salmon aquaculture in the face of the short term financial difficulties besetting the sector. Perhaps the initial expectations for industry performance were out of line.

It must not be forgotten that many of the same growing pains the B.C. industry is experiencing with Pacific salmon are the same ones the European industries experienced when their industries first started. The critical difference is timing. The Scottish and Norwegian industries could more easily handle a host of industry start-up and development problems when industry output was selling for $12.00/kilo. The B.C. industry, because of its late start and largely debt financed expansion, wasn't afforded the same luxury.

Nevertheless, few would dispute the role which aquaculture will play in agri-food production by the year 2000, nor the natural competitive advantages in terms of rearing conditions and market proximity which B.C. enjoys.

B.C. has some of the best growing conditions for salmon in the world; the capability to successfully rear a variety of species; and is ideally situated to service the most undeveloped seafood market in the world (U.S.), and the largest (Japan).

We have just experienced some difficult growing pains, but still produced over $85 million in sales in 1989. The surviving industry features larger, more concentrated, and more integrated agri-food businesses that are dedicated to the future success of this sector in B.C.

However, we are all involved in an intensely competitive, international business. It will require a strong partnership between industry and government to carve out a significant share of this growing international business for B.C. over the next decade.

Government can play a vital role by investing in R&D and market development programs to make B.C. a world leader before the 1990's are out.